

## ABSTRACT

Gateway routers for real-time networks have the ability to collect delay, loss, and jitter statistics on a per-connection basis. It is possible to use this information not only to  
5 monitor the quality of individual voice calls and other real-time connections, but also to evaluate the overall performance of the underlying network. This paper describes a method for monitoring and managing the performance of a real-time data network that supports voice, video and other real-time services. In the described embodiments, the RTCP mechanisms of RTP for sender and receiver reporting be used to relay performance  
10 information to one or more network monitoring sites for analysis and interpretation. In addition, gateway routers are organized and managed within a hierarchy that allows the monitoring function to localize its view of network conditions within the hierarchy; and the monitoring of network performance can occur on various time scales.